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ABSTRACT

In Mexico, Distance Education (DE) is defined as an "extracurricular form of education" that offers great flexibility from the standpoints of space and time coupled with the official validation and accreditation enjoyed by the country's traditional educational system. In the past 50 years, DE in Mexico has evolved from an academic area of support to a dynamic field in basic and higher education. Approximately 46 institutions now offer DE and continuing education programs in Mexico through numerous delivery systems, including correspondence courses, radio and television, audioconferencing, videoconferencing, computer-based education, the World Wide Web, e-mail, and fax. DE programs exist for students in grades K-12, adult literacy learners, undergraduate and graduate students, and faculty and staff seeking to enhance their teaching performance. In Mexico, DE is viewed as a vehicle for increasing access to education, reducing the costs of available educational services, and optimizing the use of available resources. Problems currently facing Mexico's DE system include the following: insufficient number of DE institutions; high costs of those institutions that use the latest educational technologies; and lack of articulation among institutions. (MN)

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Distance Education in the Educational System of Mexico

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Since 1947, Distance Education in Mexico has had an important role to serve traditional and nontraditional populations who are engaged in diverse educational levels. In fifty years, distance education has passed from being an academic area of support to becoming a dynamic field in basic and higher education offering a myriad of possibilities and alternatives to conventional and nonconventional audience of education in Mexico. Currently in Mexico there are approximately 46 institutions offering distance education and continuing education programs.

Mexico, along with many other developing nations, faces a challenge in the provision of basic and higher education for all its population; there is an authentic desire, expressed by popular sentiment and government interest to provide a complete primary school education and job skills to all its people.

Since 1947, distance education in Mexico has had a meaningful role to serve traditional and nontraditional populations engaged on diverse educational activities. The Mexican educational authorities have concern on the need to improve the quality of delivery processes of distance education in Mexico. Also, researchers and professionals of distance education in Mexico are looking for the improvement of quality of distance education instructional models, curricula, and equipment. Some of the current institutions using distance education are: The *Instituto Latino Americano de la Comunicacion Educativa* (ILCE), *Radio Primaria*, *Telesecundaria*, the *Sistema de Universidad Abierta* (SUA/UNAM), the *Instituto de Educacion para los Adultos* (INEA/SEP), and the *Tecnológico de Monterrey*. These are clear examples of the presence of distance education activities in the contemporaneous history of Mexico educational system.

In the developing countries, like Mexico, distance education is the product of different socioeconomic and political circumstances but with common denominators, such as: having to confront the accelerated process of technological change, competitiveness in the world market, and developing democratic societies. In Mexico the acceptance and adoption of distance learning models is result of the need to find answers of educational problems that the country faces, especially with the undeserved populations and nontraditional learners that comprise such a large portion of the overall population.

In the past fifty years, distance education has passed from a pure academic area of support to becoming a strong and dynamic basic and higher educational field. It serves a myriad of possibilities and alternatives to conventional and nonconventional audience of education in Mexico.

Currently in Mexico there are approximately 46 institutions (Herrero and Barrón, 1996) that offer distance education and continuing education programs. The educational level that they serve range from literacy, primary education, junior high, high school, higher education, to training and development of job skills. Some of these institutions serve at the local level, and others at state or national level. Regardless of the growing presence of this modality of education in Mexico, there is a lack of an unifying model of teaching and curriculum parameters. Each one has its own instructional methods, educational programs, equipment, resources, and educational policies. This is a barrier to any attempt for unifying a common interest, which is to enhance distance education in Mexico.

This paper is divided in four parts. The first part will introduce us to diverse theoretical premises that permeate distance education performance in Mexico so that we may understand its current situation and outcomes. The second part will show the most important events in the history of distance education in Mexico. The third part will describe some of the current programs of distance education in higher institutions of this nation. In the final part of this paper are the conclusions.

Goals of Distance Education in Mexico

In Mexico Distance Education is defined as "an extracurricular form of education, which offers alternatives to whoever wants to learn or to continue their education individually and by themselves, without need of the presence of an educator in the traditional way, without age restriction, occupation or time, but with the official validation and accreditation such as in the traditional educational system" (Vanscoit, 1991, p. 87). Under this conceptualization of distance education a strong

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emphasis is given to its flexibility, both in space and time. The learners are allowed to reach their educational goals in their own pace and time, without need to attend classes. Additionally they are not required to achieve a set number of minimum credit-hours as required with traditional institutions, and also they are free to decide upon the times and locations to take classes (López de Rivera, 1996). Distance education in Mexico has a presence in a variety of forms of delivery: there is a wide variety of correspondence courses, radio and television (e.g. *Radio Primaria and Telesecundaria*) are used to teach literacy and k-12 (*Primaria* and *Secundaria* the Mexican equivalent), the use of audioconferencing, videoconferencing, and computer-base education. Additionally there are online courses on the world wide web, e-mail, and fax in institutions of higher education which offer programs, workshops, seminars, courses at the undergraduate, master, and doctoral levels (e.g. *UNAM, IPN, ILCE, Tecnológico de Monterrey, Universidad de las Américas, Universidad Veracruzana, Instituto Mexicano del Petróleo).*

Distance education in Mexico is seen as an alternative educational form to reach many sectors of the Mexican population who are in a wide geographical area of the country. It is also seen as a vehicle method to reduce the cost of educational services, and to optimize the use of available resources. Distance education is conceived as an educational form that allows more participation of the society in their formative education. It is recognized that the learners participate more actively and independently, and there are no assigned quotas.

Education in Mexico is a legal and constitutional right for all citizens. The educational Mexican system is conceived as plural and nationalistic, therefore distance education is seen as a plural and dynamic mode of instruction to enhance the social condition of Mexico. There is not a unique model of instruction among the institutions that develop this kind of education. This is reflection of the richness of alternatives for the delivery process of distance education. However, this diversity leads to a difficulty of articulating a common effort to optimize distance education resources at a national level (Herrero and Barrón, 1996).

The major educational arenas that distance education is utilized in Mexico are:

1. Literacy, primary education, adult basic education, continuing education and nonformal education for job training.

2. Technical and vocational education. It includes formal job training, and technical education at high school and higher education levels.

3. Open high school systems which allow students of elementary school to get their GED in their own communities.

4. At college level, student needs are being met with undergraduate, master and doctoral programs.

5. Development and updating of faculty and staff to enhance their performance (Miaja de la Peña, 1991).

Currently distance education in Mexico has some problems. It can not reach all sectors of the population. There simply are not enough institutions which offer this alternative form of education. High cost in some institutions (especially with videoconferencing, online courses, e-mail) makes it cost prohibitive for diverse audience. Rural and Indian communities are typically underserved. A major problem is a lack of articulation among institutions to join forces in an effort to resolve some of these educational problems in Mexico. Despite these problems, the future of distance education and its development is very promising. The distance education paradigm has arrived in Mexico to stay in its educational system.

Distance Education History in Mexico

In Mexico the first antecedents on distance education was in 1947, when the *Instituto Federal de Capacitación del Magisterio* (Federal Institute for Training and Development of Teachers) was founded to provide continuing training for teachers, so that they could continue their duties without interruption. This institute offered correspondence courses, and intensive short traditional courses during vacations. This was the first case of formal distance education in Latin America (López de Rivera, 1996).

During the sixties this kind of education started to show signals of weakness. As a result of the educational need to reach more people the Mexican government "had made political commitments to provide universal primary and secondary schooling and in 1966 began experimenting with a system of instructional television called *Telesecundaria*, as a means of extending the secondary school system in rural areas" (Jamison, Klees, and Wells, 1978, p. 217). "Telesecundaria began on a small scale in September, 1966, with closed circuit broadcasting to an experimental school in Mexico City. Eighty-three seventh graders, divided into four classes, received televised instruction in the standard projects" (Jamison et al., 1978, p. 218) "The system was initiated and run . . . under the auspices of the audio visual department of the Mexican secretariat of public education (SEP). Production activities of the telesecundaria were centered in four studios maintained by SEP in Mexico City. Two strong incentives for using studio time efficiently were the fact that a large number of subjects were broadcast and that they were almost all televised live. Each teleteacher had only on e hour in the studio to rehearse and deliver a twenty-minute lesson"(Jamison et al., 1978, p. 219). Telesecundaria emerged as one of the most fascinating experiments of distance education and instructional technology in Latino America. It is still in use today. It is interesting, and

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perhaps meaningful, to note that Telesecundaria, unlike other similar projects, was initiated entirely by the country utilizing it, without outside financing of technical assistance.

Another initiative in the sixties was *Radio Primaria*. "The Mexican Secretariat for Public Education (SEP) initiated in 1969 an experimental program that utilized instructional radio to aid in the provision of fourth, fifth and sixth grade education to certain rural and semi-rural regions that lacked a compete primary school" (Jamison et al., 1978, p. 139). "Radio primaria was intended primarily to allow a school with four teachers to offer all six grades of primary schooling. Some instructional radio programs would be grade-specific while others would be directed to all three grades in common. When grade-specific lessons were broadcast, the students in the other two grades were supposed to engage in work on their own. It should also be noted that the above structure implied that students may be directed to listen to the same common broadcast each year for three years" (Jamison et al., 1978, p. 140). The radio primaria system was an interesting attempt at meeting the problem of insufficient educational opportunities in rural areas of Mexico.

In the seventies, as part of the change in the educational policy of the Mexican government, the *Reforma Educativa* (Educative Reform) was implemented, with the intention of adopting new models and methods of instruction and teaching. These models and methods were created to be flexible and supportive of the self-learning process of learners. At this time diverse distance education and continuing education initiatives were developed. For example, the Universidad Nacional Autónoma de México (UNAM) (National Autonomous University of Mexico) established the *Sistema de Universidad Abierta (SUA)* with the goal of reach undeserved populations within surrounding Mexico city. The SUA delivered instruction to undergraduate and graduate programs, including alternative programs, such as: seminars to finish theses and dissertations, programs to help former students drop out to get their diplomas, and faculty and staff training. These programs were innovative as they provided these opportunities without traditional attendance regulations. This was the first attempt in Iberoamerica to develop an initiative of continuing and distance education in higher education (Vanscoit, 1991, Herrero and Barrón, 1996).

In 1974 the Instituto Politécnico Nacional (IPN)(National Polytechnic Institute) started its own program of continuing and distance education known as the *Sistema Abierto de Enseñanza*. It was similar to SUA and Sistema Tecnológico Abierto de la Dirección General de Institutos Tecnológicos de la SEP as it addressed the education of high school and higher education levels. (López de Rivera, 1996).

In 1978 the *Consejo Coordinador de Sistemas Abiertos* (Coordinator Council of Open Systems) was established. Its goal was to coordinate the existent efforts of continuing and distance education of diverse institutions which offered programs of high school and higher education levels. In 1981 the *Instituto Nacional para la Educación de Adultos* (INEA) was founded by the government, with the purpose to develop literacy and basic education for adults. INEA and its centers serve people over 15 years of age. It offered diverse programs for literacy, job skill training and primary education.

During 1987 and 1988 the Dirección General de Evaluación Educativa organized the *First and Second National Meetings of Continuing Education (educación abierta)*. They focused on finding solutions to the diverse problems related to training and educating nontraditional learners. In 1991 the Dirección General de Educación Abierta organized the *Third National Meeting of Continuing Education and the First National Meeting of Distance Education*. This meeting were addressed specific topics about how to improve distance education in Mexico. The Purpose of this meeting was to share experiences and to look for solutions among institutions that have this kind of education.

The *Programa para la Modernización Educativa 1989-1994* (Program of Educative Modernization) has given distance education and continuing education a prominent role in the Mexican educational system. It has amplified the possibilities of reaching people and helping to resolve some fundamental educational problems.

In 1995, the SUA/UNAM and the Dirección de Sistemas Abiertos de la SEP (Center of Continue System) organized the *Fifth National Meeting of Continuing Education and the III National Meeting of Distance Education*. Included in this meeting were 51 institutions, 46 of these had distance education programs. The focus of this meeting was the quality of continuing and distance education, and the possibilities of reaching more sectors of the Mexican population (Herrero and Barrón, 1996). This meeting established guidelines for standards and parameters for operating distance education programs which included 35 criteria. (Herrero and Barrón, 1996). These products are one of the most important developments in the history of distance education in Mexico because they have established the first attempt at coordinating the various institutional efforts into one common cause: to enhance the distance education system in Mexico.

Programs of Distance Education at Higher Education Institutions

In Mexico there are very successful distance education programs at the higher education level. In this section we will see briefly some of the institution that have evidenced successful implementation of distance education programs.

The *Instituto Latino Americano de la Comunicación Educativa* (ILCE) has had a long tradition in producing material and training teachers in instructional technology. They have been especially successful in the areas of television, radio, and videotaping. ILCE was founded in 1956 by the UNESCO and Latinomerican countries. During its first 22 years it produced

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audiovisual materials to help the education and training of human resource professionals in Latino America. In 1978 ILCE was reorganized to educate teachers and educators in the use of instructional technology and distance education. It currently has an interesting Master Degree program and research activities which are focused on educational and cultural communication, means of communication in education, and distance education. It also maintains its own library, laboratories and a publishing house.

Since 1972, the *Universidad Nacional Autónoma de México* (UNAM) has been developing experience in delivering educational programs using distance education. The core of the UNAM distance education program is to meet "different needs [such as]: lifelong learning, higher education as a second chance, education for adults unable to attend regular courses to finish their studies, service to remote populations, and continuing education for faculty in the remote campuses. This program confronts barriers such as traditional structures, rapid technological changes, and didactic in the use of media for instruction. Provision of education on a large scale depends on addressing issues dealing with research, infrastructure, development, training delivery procedures, and organizational changes" (Alvárez, 1996, p. 1). UNAM has a large staff of professionals and institutional branches which are closely interrelated with its distance education activities. The *Coordinación de Educación a Distancia of UNAM*, closely interacts with the *Centro de Investigaciones y Servicios Educativos, Sistema Universidad Abierta* (SUA), *Dirección General de Servicios de Cómputo Académico, Dirección General de Televisión* and with the *Coordinación de Universidad Abierta y a Distancia* (CUAED). Currently, UNAM has established Internet connections throughout its campuses, and has 18 videoconferencing rooms to serve its distance education needs. The next table shows the list of UNAM videoconferencing rooms.

Table I
Videoconferencing Rooms used for Distance Education Programs at UNAM

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Videoconferencing Rooms
1. Centro de Enseñanza para Extranjeros
2. Centro de Extensión en Cómputo y Telecomunicaciones. Mascarones
3. Dirección General de Servicios de Cómputo Académico.
Ciudad Universitaria. Mascarones
4. Escuela Nacional de Estudios Profesionales Aragón.
5. Escuela Nacional de Estudios Profesionales Iztacala.
6. Facultad de Ciencias.
7. Facultad de Contaduría y Administración.
8. Facultad de Contaduría y Administración (División de Educación Continua).
9. Facultad de Estudios Superiores Cuautitlán.
Campo 1. Campo 4.
10. Facultad de Filosofía y Letras (División de Educación Continua).
11. Facultad de Ingeniería (División de Educación Continua).
12. Facultad de Medicina.
13. Facultad de Medicina Veterinaria y Zootecnia.
Quirófano de equinos
14. Facultad de Odontología (Unidad de Estudios de Posgrado).
Instituto de Investigaciones Filológicas.
15. Televisión Universitaria-UNAM.
16. Museo UNIVERSUM.
17. Unidad de Seminarios.
18. Vivero Alto-UNAM.

Since *1974 the Instituto Politécnico Nacional* (IPN) has been developing its own system of continuing and distance education that serves its high school and higher education students. Distance education is part of the Dirección de Educación Continua, this direction belongs to the Coordinación Académica of IPN. Currently the IPN is engaging in the updating and modernizing of is continuing and distance education programs and facilities. With its *Edificio Inteligente* (Intelligent Building), and 10 videoconferencing rooms in its diverse campus, IPN is providing distance education with the highest technology available. The next table has a list of videoconferencing rooms which IPN has in its facilities.

Table II

Videoconferencing Rooms used for Distance Education Programs at IPN

Videoconferencing Rooms
1. Difusión Cultural. Ubicación: Unidad Profesional Zacatenco, Distrito Federal.
2. Edificio Inteligente. Ubicación: Unidad Profesional Zacatenco, Distrito Federal.
3. Escuela Superior de Contaduría y Administración. Ubicación: Casco de Santo Tomás, Distrito Federal.
4. Escuela Superior de Ingeniería Mecánica y Eléctrica. Ubicación de la sala: Unidad Profesional Zacatenco, Distrito Federal.
5. UPIICSA.
6. Unidad Culiacán.
7. Unidad Morelia.
8. Unidad Profesional Interdisciplinaria de Ingeniería y Ciencias Sociales y Administrativas
9. Unidad Reynosa.
10.Unidad Tijuana.

There are other institutions of higher education in Mexico which utilize distance education as an instructional method. Some of these institutions are: *The Instituto de Estudios Superiores del Tecnológico de Monterrey* (IESTM), which has a very strong institutional section of distance education, with the most updated facilities and capabilities to offer degrees (undergraduate, master and doctoral), workshops, seminars, certifications programs to diverse audience in many cities of Mexico. With its distance education program named *Universidad Virtual* (Virtual University) allows its students to access courses online as well as accessing video and audioconferencing proceedings. The *Universidad Veracruzana* is an excellent example of a successful distance education program. It currently has distance education programs online and 5 videoconferencing rooms to serve its student's education needs. Other institutions utilize modern technology (internet, audio and videoconferencing, and so on) to deliver distance education, such as: the *Universidad de Colima*, *Universidad de Sonora, Universidad Autónoma de Ciudad Juárez, Centro de Investigaciones Avanzadas*, and *PEMEX* are the most prominent. It is necessary, also, to mention that some American Universities have established distance education initiatives in Mexico, with very successful results. An example is the *Texas A&M University Center in Mexico City*, which belongs to the Texas A&M System and the TransTexas Videoconference Network (TTVN). This center is offering a myriad of seminars and courses from Texas to Mexico City, and vice versa.

Conclusions

The field of distance education has 50 years of history and development in Mexico. It has passed through different stages and levels, from being just a support area, basically correspondence courses, to where it is right now. Currently, it is a strong component in the educational processes of all level of education in this country. Mexico is on the verge of a new era of distance education in Latino America. It is becoming a leader in the region and an example for other developing countries around the world.

Mexican educators engaged in distance education have voiced the concern that an instructional model of distance education is needed. It needs to be responsive to different needs of Mexico's educational problems. This instructional model and methodology of teaching has to be flexible, diverse, contextual-based, pluralistic, and socially adequate to the needs of all the people of the nation. Also, they have voiced the necessity to introduce the scientific and technological innovations to all of the subbranches of distance education. In the last National Meeting of Distance Education in Mexico were recommended the

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following actions to develop:

1. Create Cooperative Centers of Instructional Technology

2. Design procedures to capitalize the talent and experience of diverse groups working in this field.

3. Develop strategies that allow institutions to disseminate findings of applications of technological advances.

4. Create learning models adequate to distance education.

5. Design software and new electronic means of communication with learners (Alvárez Buylla Roces, 1991).

Distance education in Mexico has a long way to walk, but it is walking well, regardless all its economic and social problems. Mexico's role in developing distance education has been quite meaningful and considering the educational needs of Latino America this role shows promise of leadership and influence in the region.

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